



Computer Games and Visualization

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The Revolution is Now

- **Used to buy vis hardware from SGI, who built it for us**
- **Now we buy \$100 chips from nVidia etc, built for gamers**
- **Vis5D and VisAD run very fast on Linux box with nVidia GeForce**
- **Vis5D and VisAD run respectably on laptop with ATI**

Vis is out of the Loop

- The game chip makers won't listen to vis folks
- There are thousands of us, millions of gamers
- But it won't matter, because . . .

Abstraction Portability

- **Portability of image building abstractions**
- **Vectors, triangles and textures**
- **Memory capacity, I/O speed and processor speed**
- **Vis will be able to use the same resources and abstractions used for games**

Programmability

- The game chips will be programmable
- Because they need content
- Sony Play Station 2 programmable in Java
- Full Sail Java game development tools
- Intel graphics cards programmable

Interoperability

- **The game chips will be interoperable**
- **So players can share virtual spaces across the net**
- **Java for platform-independent game environment**

Special Purpose Gives Way to General Purpose

- **Supercomputers are giving way to commodity clusters**
- **IEEE 99 paper by Hanrahan et al about using commodity clusters to replace multi-processor SGIs to drive multi-screen walls**

Networked Computer Games will

be the Medium of the 21st

• As movies and TV were the media of the 20th
Century

- Compare computer games now to movies in 1900
- Computer games with the visual quality of movies
- Sim-like games where the characters have complex "personalities" and realistic looks and motion

Vis Work will Focus more on People Issues

- **Too much focus even now on specialized hardware and interfaces**
- **The game industry will provide a wide array of cheap, effective tools**
- **More focus on how user perceives, shares, and interacts with visual representations of information**

The background of the entire image is dark with faint, light-gray technical drawings. At the top, there are architectural sketches of buildings and a large semi-circular diagram with concentric arcs and labels like 'Fig. 1' and '1993-4'. At the bottom, there is a large circular diagram with radial lines and labels such as 'Lar. Germanicus', 'Chorismis', and 'Lar. Lion'.

SIGGRAPH

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A smaller version of the SIGGRAPH 2001 logo, featuring the word 'SIGGRAPH' in white with a horizontal line through it, '2001' in orange below it, and the tagline 'EXPLORE INTERACTION AND DIGITAL IMAGES' in small white text at the bottom.

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